

# NOVEMBER METEORS.

Letter from Prof. Newton, of Yale College, to Prof. Henry, Secretary of the Smithsonian Institution.

YALE COLLEGE, Nov. 31, 1886.  
DEAR SIR: You request a brief statement of such facts respecting the probable return of the November meteor as this year as are of general interest to serve as reply to inquiries made upon the subject; also, for a statement of some of the points to which the attention of the observer should be called.

The fact of a periodic return of the meteor seems shown by the following facts:  
On the 13th of November, A. D. 1833, was a remarkable shower, ever to be remembered by those who witnessed it.

A similar display of less intensity was seen over all Europe on the morning of the 13th of November of the year previous. It was very generally spoken of in the newspapers of the day and formed the subject of at least two extended articles in the scientific journals.

On the morning of November 12th, A. D. 1790, a shower very like that of the year 1833 was witnessed in various parts of America, and was particularly described by Humboldt, who was then in South America.

He refers to a similar display in A. D. 1766, but the day of the year is not given. An unusual number of shooting stars was noticed on the 9th of November, A. D. 1698.

The Chinese records state that several hundred shooting stars appeared on the night of the 6th of November, A. D. 1602. (This and the following dates are, for convenience given in the new styles.)

Both in China and in Europe large numbers of shooting stars were witnessed on the 3d of November, A. D. 1833.

On the morning of the 31st of October, A. D. 1866, a most remarkable shower was witnessed in Europe.

A similar shower occurred on the morning of October 26th, A. D. 1802.

Falling stars are reported on the 23d of October, A. D. 1101.

The Chinese records speak of thousands of shooting stars on the 20th of October, A. D. 1002.

Both in Europe and in China large numbers of shooting stars were seen on the 15th of October, A. D. 934.

In China they were seen October 21st, A. D. 931.

But one of the most remarkable showers, as well as the first shower of this series of which we have any account, was on the morning of October 18th, A. D. 902.

These years, it will be noticed, show very distinctly a cycle of about the third of a century, while the day of the month is about the same, and the time of day is about the same.

It should be added that this list is not made up of selections from a large mass of similar records. It includes all the known occurrences of this phenomenon between A. D. 902 and A. D. 1866.

It happened within ten days of the proper time of the year of this shower.

After A. D. 1833, the number of meteors seen on the morning of the 13th of November, though, for a few years, somewhat greater than we see on ordinary nights, were not inconsiderable, and, after five or six years, no one could claim unusual numbers on that morning.

For the last three or four years, however, there have been distinct indications of the return of the November meteors.

This was particularly manifested last year, inasmuch as single observers, on the morning of the 13th of November, witnessed about seventy-five meteors per hour.

A party of four persons, at New Haven, counted 238 in an hour, and a party at Greenwich, observed and counted 230 in an hour. These numbers are, probably, five or six times as great as would be obtained on ordinary mornings.

Nearly all the meteors, moreover, moved in paths diverging from the constellation Leo, which is a peculiarity of the November shooting stars.

We cannot predict with confidence a greater display this year. The thirty three year cycle ends in 1866, rather than 1865, and hence such a display is not probable.

But we must remember that for many returns of the period since A. D. 902 we have no account of a corresponding shower.

But for the experience of last year, the morning of November 14 would be named as the time to look for the meteor. But their occurrence then on the 13th, and not on the 14th, makes it necessary to look for them on either morning of this year.

They cannot be expected in great abundance until the constellation Leo is above the horizon, that is, until eleven o'clock. In previous displays, the maximum has usually been between 3 o'clock and dawn.

Previous displays have continued several hours, and have been visible over considerable regions. If the shower falls this year between the mornings of the 13th and 14th, it may appear only to those on the outside of the earth. Thus, in 1833, the display was exclusively European, although we had clear skies, and the shower fell nearly alone over the exhibition. So, in 1790, a grand display was witnessed in America, while in Europe a few meteors only attracted the notice of observers.

Shooting stars appear in the upper regions of the atmosphere. If the shower falls at a height of thirty miles, and probably do not appear at a greater height than one hundred and twenty-five miles. They move with great rapidity, having an average velocity of at least twenty-five miles a second, nearly or quite one hundred times the ordinary velocity of a cannon ball. In 1863 a considerable number of the November meteors were observed simultaneously at the Observatory and Coast Survey office, in Washington, and by Prof. Gummere, Mr. Marsh, and others, at Haverford, Pennsylvania and Philadelphia. From these observations the true heights of between seventy and eighty miles have been computed. The mean altitude at appearance was ninety-six miles, and at disappearance, sixty-one miles. These results seem to show that the November meteors are fifteen or twenty miles higher than those of August.

It is generally admitted that shooting stars are small bodies moving in orbits like planets or comets, which encounter the earth and are burned up, or are dissipated, in the upper regions of the atmosphere. Groups of such bodies moving together, in a common direction, produce the August and November exhibition.

The true November meteors proceed in lines radiating from the constellation Leo, or more exactly from the sickle in Leo. This radiation is due to perspective—the paths being, in all parallel to each other.

The following suggestions and questions to be answered are to be directed to observers:  
1. Count the number of shooting stars that are seen in each hour of either night.  
If several persons count, have them look in different directions, and count aloud to avoid duplication. State the number of persons counting.

2. How many of the meteors seem to move in paths which if produced backwards, would cut across the space bounded by the stars in the curve of the sickle in Leo, that is, by the stars Eta, Mu, and Epsilon?  
3. How many of them have trains?  
4. How many of the trains are white?—how many yellow? how many black?  
5. What differences are there between the November meteors and the ordinary stars? Compare those which radiate from Leo with those which do not.

6. If the meteors are very numerous, count the numbers visible in a telescope, in each hour. Direct the telescope to some point at a distance from the radiant—say to the North pole. Report the size of the object glass, diameter of field, magnifying power, direction of the telescope, &c.  
7. If the meteors visible to the naked eye are too numerous to count, select two stars a

few degrees apart, and count the number of paths that actually cut across the line joining these stars.  
What is the average length of the visible paths?  
9. What is the average duration of flight? or how many degrees do they move in a second?  
10. Are the meteors which do not proceed from Leo referable to any other ray? particularly do they proceed from near the handle of the dipper?  
11. When persistent trains float slowly away, what is the direction and velocity of the motion?  
12. Extent of obscuration by haze may be measured by noting the smallest stars visible near Polaris.

13. Can anything peculiar be seen in the telescope during the daytime, particularly on the 13th?  
14. It is very important (and yet not easy) to determine exactly the radiant. It is apparently a small area, and not a point. What are the limits of this area? Is it possible to determine in which direction is its greater diameter?  
15. Whenever any meteor has any peculiarity, such as peculiar brilliancy or color, or persistent train, and by which it can be identified, note carefully its apparent path among the stars. This may be done by drawing its path upon the chart published by the Connecticut Academy and the Smithsonian Institution, or the stars near which, to which or from which, it is moving may be noted, together with the distance from those stars. Meteors leaving persistent trains are best adapted to these observations. When such a star is so observed at two stations its altitude can be determined. The exact time (hour, minute, and second) of the appearance of such meteor is very important as a means of identification.

16. Record notes of the observations made. Recollections are of little value. Do not try to do too much. Do a little well. And finally, send the results of observations to the Smithsonian Institution, or to the Connecticut Academy, for collation and preservation.

YALE COLLEGE, November 3, 1886.  
A ROMANCE IN REAL LIFE.  
A MOTHER CLAIMS HER CHILD—AFFECTING SCENE IN COURT.

A very affecting scene took place in the Supreme Court Chambers in New York, before Judge Barnard, one which, for the time, brought tears to the eyes of nearly every spectator. It appears about six years ago one Mrs. Barrett left a babe, named Edward Barrett, twelve days old, with a woman named Mrs. McCabe. From that time till now Mrs. McCabe has brought up, supported and educated the child.

The mother went South, married again, and after a lapse of the above time, came to claim her off-spring. She asserted her cause with all the eloquence of a mother's heart. Mrs. McCabe set forth that she was tenderly attached to the child; that she had expended a considerable sum on its behalf. She also produced letters from an eminent physician showing that the child had been as it were snatched from death. The little boy, on being called on to go to his mother, clung to Mrs. McCabe, and repeatedly refused to go to his real parent. This produced quite a scene. The mother, in a heartrending tone, exclaimed:

"Oh, Judge! Judge! Don't give my child away—my heart will break—it will break!" "Don't break the child's heart," she said, but energetically responded Mrs. McCabe.

The Judge for a few moments, was evidently embarrassed, but at length said: "My good woman, (to the mother) your case is a hard one, but you are a mother, and age, delicate in health, and evidently attached to the people who have always brought him up. If I give him to you, and you take him South, he will surely die. I will let him remain where he is for one year. By that time he will be stronger and healthier; then, if you apply again, your application may be granted."

Counsel for the mother here said that Mrs. McCabe had offered to give up the child, if she was paid \$500.

Judge Barnard said that if \$75 were wanted to get the child back, the mother should call on him, and he would give it to her.

"I do not want to sell the child," said Mrs. McCabe.

The parents then left the court, the mother sobbing with grief, but the boy clinging to Mrs. McCabe's neck with an intensity of affection almost painful to witness.

AN EDITOR IN HEAVEN.—Under the foregoing caption an exchange gives a long obituary notice of a deceased brother editor, from which we have room only to extract the closing paragraph: "Should we not rejoice that our late friend of the scissors and quill is in heaven? In that paradise where the cry is 'peace, peace,' will never again find his distracted ears. There his enjoyment will no more be interrupted by the growls of the unreasonable subscribers, or the duns of the paper maker. There he will enjoy entire freedom from the detractions and misrepresentations of political opponents, and the caresses of ambitious political aspirants. In that best abode he is no more to be troubled with illegible manuscript or abominable poetry. No rival editor will there steal his thunder, or his items, and typographical errors shall know him no more forever."

MILLIONS OF MONEY.—An aged man, who was a prominent merchant in this city in the time of the war of 1812, was asked the other day how many men there were at that period supposed to be worth a million of dollars. The answer was: "Not one. We never talked about millions; we never thought about millions as belonging to individuals."

A gentleman well known in this State says that he was at a winter party in Albany last winter, gathered not with reference to wealth, but for other reasons, where he counted at least eight men, among those thus casually collected, who were worth over a million each, and every one of them had begun life in actual poverty.

Such is the growth of our country, and such is the quality of the men it produces.—N. Y. Post.

A DUKE'S ADVENTURE.—The Duke of Hamilton, Mr. Thos. Wombwell had a strange adventure after the recent Deauville races in France. Having missed the train, and being very anxious to return to London, the Duke went to the coast to charter a vessel to convey him and his friend to Brighton, for the use of which they had offered one thousand francs. The police, hearing that two strangers were offering fishermen large sums of money to convey them to England, pounced down upon Mr. Wombwell as one of the two "wealthy" who had bolted from the race course with the pools. On the return of the Duke a short explanation set the matter right.

THE WILL OF A WEALTHY MAN.—The will of Henry Ames, of St. Louis, Missouri, who died recently from paralysis, makes the following bequests: \$200,000 to his wife, \$50,000 to his daughter, by her marriage, and \$100,000 to the Follen Institute, which is a liberal institution of learning, something after the plan of the Cooper Institute in New York. The balance of his property goes to his only child, a little boy, Henry Ames, Jr. The whole estate is valued at \$1,500,000.—The chief items of property owned by Ames and his brother, who survives him, are the Lindell Hotel, a valuable block on Fourth street, called Vocanion row, and an immense amount of stock in Belcher's Sugar Refining Company.

# Raleigh Money Markets.

JOHN C. WILLIAMS & CO., Bankers, RALEIGH, N. C.

PRICES OF NORTH-CAROLINA BANK NOTES	
100	144
50	138
25	132
10	126
5	120
2	114
1	108
50c	102
25c	96
10c	90
5c	84
2c	78
1c	72
50c	66
25c	60
10c	54
5c	48
2c	42
1c	36
50c	30
25c	24
10c	18
5c	12
2c	6
1c	0

RALEIGH NATIONAL BANK OF N. CAROLINA.  
BUYING RATES.

100	143
50	137
25	131
10	125
5	119
2	113
1	107
50c	101
25c	95
10c	89
5c	83
2c	77
1c	71
50c	65
25c	59
10c	53
5c	47
2c	41
1c	35
50c	29
25c	23
10c	17
5c	11
2c	5
1c	0

NORTH-CAROLINA BANK NOTES:  
Bank of Cape Fear..... 25  
Charlotte..... 20  
Commerce..... 15  
Fayetteville..... 10  
Greensboro..... 5  
Lexington..... 18  
Roxboro..... 30  
Thomasville..... 30  
Wadesboro..... 30  
Wilmington..... 18  
Yanceyville..... 10  
Zionsville..... 10  
Commercial Bank of Wilmington..... 17  
Bank of Greensboro..... 10  
Greensboro Mutual..... 10  
Merchants' Bank of Newbern..... 30  
Miners' and Planters' Bank..... 25

RALEIGH PROVISION MARKET:  
CORRECTED WEEKLY BY  
WM. C. UPCHURCH, GROCER, RALEIGH.

FLOUR.....	13 50/100
CORN.....	1 35
MEAL.....	1 35
WHEAT.....	1 35
LARD.....	20
CHEESE.....	25
SUGAR.....	30 35
ICE.....	15
BEAN.....	2 50/100
PEPPER.....	10 50/100
PEAS.....	1 00
POTTAGE.....	1 00
SHUCKS.....	75
HAY.....	1 00
QATS.....	1 00
POTATOES.....	75
SALT.....	50
CANDLES.....	30
SOAP.....	20
SPICE.....	10
APPLES.....	3 00
CHICKENS.....	20 25
EGGS.....	20 25
MULLETS.....	10 25
SODA.....	20
BLUE STONE.....	25
RED STONE.....	25
COTTON.....	20 31 1/2
SHEETING.....	25
STARCH.....	20 30
PEPPER.....	20
SILICE.....	20
GINGER.....	20
NAILS.....	10
IRON.....	10
BEESWAX.....	20
ROSIN.....	20
TURPENTINE.....	65

NORTH-CAROLINA RAILROAD.  
Change of Time.  
Goes into effect Sunday, November 4th, 1886.

STATIONS.	ACCOMMODATION.	MAIL.
Charlotte	Arrive 10:30 p.m.	Arrive 5:30 a.m.
Salisbury	2:30	12:30
Greensboro	7:15	6:25 p.m.
Raleigh	8:30	8:15 p.m.
Goldboro	Leave 8:30 a.m.	Leave 8:15 p.m.

STATIONS.	MAIL.	ACCOMMODATION.
Charlotte	Arrive 9:55 a.m.	Leave 4:00 p.m.
Salisbury	12:05 p.m.	8:15
Greensboro	2:44	12:30 a.m.
Raleigh	3:20	7:30
Goldboro	11:15	Arrive 12:15

Mail Train connects at Greensboro with trains on R. & D. R. for the North.  
Accommodation Train East connects at Raleigh for Weldon and the North, at Goldboro for Weldon, Wilmington, and Newbern.  
Mail Train South connects with C. & S. C. R. R. for the South.

E. WILKES, Eng. & Supt.  
Nov. 10, 1886. 100—Supt.

CHANGE OF SCHEDULE.  
RALEIGH & GASTON RAILROAD CO.,  
SUPERINTENDENT'S OFFICE,  
Raleigh, Nov. 3d, 1886.

ON AND AFTER SUNDAY, NOVEMBER 4th, 1886, Trains will run as follows:  
Mail train leaves Raleigh at 8:00 a.m.  
Arrives at Weldon at 2:00 p.m.  
Arrives at Raleigh at 11:00 a.m.  
Freight train leaves Raleigh at 4:00 a.m.  
Arrives at Weldon at 8:00 a.m.  
Arrives at Raleigh at 4:00 p.m.  
Mail train leaves Raleigh at 8:00 a.m.  
Arrives at Weldon at 2:00 p.m.  
Arrives at Raleigh at 11:00 a.m.  
Freight train leaves Raleigh at 4:00 a.m.  
Arrives at Weldon at 8:00 a.m.  
Arrives at Raleigh at 4:00 p.m.

W. G. LEWIS, Gen. Supt.  
Nov. 4th, 1886.

EVERY DAY BRINGS US SOMETHING NEW.  
W. H. & R. S. TUCKER & CO.

Our Line of Ladies' Dress Goods is now Complete.  
Rich Black and Colored Silks. Real Fish Bone. Emboss Cloth, Black and printed. Plain and printed French Merinos. All Wool. Men's, plain and printed. Solid Mohair Reps. Rich Cashmere Stripes. Scotch Plaids, &c., &c.

JOUVIN'S KID GLOVES.  
A Large Stock of Mourning Goods of the most Desirable Kinds.  
Opera and Suede Gloves, a full line of White, Red and Gray Flannels. T. Miles and Sons Gaiters and Shoes.

Real India Cashmere Shawls.  
FRENCH, ENGLISH, AND AMERICAN PRINTS, IN ANY QUANTITY.  
HOSIERY.  
GLOVES AND MEANS UNDER GARMENTS.  
W. H. & R. S. TUCKER & CO.

THE ATTENTION OF GENTLEMEN IS CALLED TO  
NEW STOCK OF HATS.  
The Broadway Hat. Central Park. Queen Emma. Mahopack. Derby. Driving. Champion. Dior. Also plain soft. Hats and Beebe's Fashionable Male Skin Hats.  
W. H. & R. S. TUCKER & CO.  
Raleigh, Oct. 26th, 1886. 84—H.

SHUT IN WHEAT.  
L. B. WESTON, A SURE PREVENTIVE OF SHUT IN WHEAT, if soaked in before sowing. For sale, cheap, at the drug store of WILLIAMS & HAYWOOD.  
Raleigh, Oct. 30, 1886. 90—H.

# Special Notices.

DOCTOR GARDNER,  
[FORMERLY OF LONDON, ENGLAND.]

OCULIST AND AURIST, OPERATOR ON THE EYE AND EAR.

Respectfully informs the citizens of Raleigh, and vicinity, that he will be at the Exchange Hotel on Saturday, November 24th, and remain until Thursday, November 26th, and again on Saturday, December 23d, until 10th, and again on Saturday, December 23d, until 10th, and again on Saturday, December 23d, until 10th.

Office hours from 9 A. M. to 6 P. M.

And can be consulted on DEAFNESS, NOISE IN THE HEAD, CATARRH, DISCHARGES FROM THE EAR, SCALES IN THE EAR, OBSTRUCTION OF THE EUSTACHIAN TUBE, and all Acute or Chronic Diseases of the EAR AND AIR PASSAGES.

ARTIFICIAL EYES.  
Inserted without PAIN, and perfectly resembling the natural eye. Operations for CATARRH, STRABISMUS, or CROSS EYE, Artificial Pupils, &c., skillfully performed, and all diseases of the EYE AND EAR.

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# Special Notices.

Reduction in Price of the American Watches.  
MADE AT WALTHAM, MASSACH